

As filed with the Securities and Exchange Commission on April 23, 1999

Registration No. 333-_____

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

CIENA CORPORATION

(Exact name of registrant as specified in its charter)

DELAWARE

23-2725311

(State or other jurisdiction
of incorporation or organization)

(I.R.S. employer identification no.)

1201 WINTERSON ROAD
LINTHICUM, MD 21090

(Address of principal executive offices)

LIGHTERA NETWORKS, INC. 1998 STOCK PLAN,
AS AMENDED

(Full title of the plan)

G. ERIC GEORGATOS
SENIOR VICE PRESIDENT, GENERAL COUNSEL
AND SECRETARY
CIENA CORPORATION
1201 WINTERSON ROAD
LINTHICUM, MD 21090
(410) 865-8500

(Name, address and telephone number, including area code, of agent for service)

Copy to:
MICHAEL J. SILVER
HOGAN & HARTSON L.L.P.
111 SOUTH CALVERT STREET
BALTIMORE, MD 21202
(410) 659-2700

CALCULATION OF REGISTRATION FEE

Title of securities to be registered (1)	Amount to be registered	Proposed maximum offering price per share (2)	Proposed maximum aggregate offering price (2)	Amount of registration fee (2)
COMMON STOCK, PAR VALUE \$.01	2,521,120	\$2.65846482	\$6,702,309	\$1,864

(1) We are also registering Series A Junior Participating Preferred Stock Purchase Rights attached to the common stock. We are paying no separate fee under Rule 457(i).

(2) The proposed maximum offering price per share is the weighted average exercise price of outstanding options. The filing fee is computed under Rule 457(h)(1) based on the aggregate price at which the options may be exercised.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I will be separately sent or given to employees participating in the Lightera Networks, Inc. 1998 Stock Plan, As Amended (the "Stock Plan"), as specified by Rule 428(b)(1) of the Securities Act of 1933, as amended (the "Securities Act"). In accordance with the instructions to Part I of Form S-8, such documents will not be filed with the Securities and Exchange Commission (the "Commission") either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

The Company hereby incorporates by reference into this Registration Statement the following documents filed by it with the Commission:

- (a) The Company's annual report on Form 10-K for the fiscal year ended October 31, 1998, filed on December 10, 1998, and amended on April 5, 1999;
- (b) The Company's report on Form 10-Q filed on February 18, 1999, the Company's report on Form 8-K filed on April 1, 1999, and amended on April 5, 1999 and the Company's report on Form 8-K filed on April 5, 1999;
- (c) The description of the Company's common stock contained in the Company's Registration Statement on Form 8-A, filed with the Commission on January 13, 1997, as amended;

In addition, all documents and reports filed by the Company subsequent to the date hereof pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act, as amended (the "Exchange Act"), prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be part of hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequent filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

ITEM 4. DESCRIPTION OF SECURITIES.

Not applicable (the Common Stock is registered under Section 12(g) of the Exchange Act).

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Item 14 of Part II of the Registration Statement of the Registrant on Form S-1 (Registration No. 333-17729) is hereby incorporated by reference into this Registration Statement.

* * *

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission, such indemnification is against public policy as expressed in the Securities Act and therefore is unenforceable. In the event that a claim for indemnification against such liabilities is asserted by such person in connection with the offering of the Common Stock (other than for the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of the issue.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED.

Not applicable.

ITEM 8. EXHIBITS.

Exhibit Number -----	Description -----
4.1	Form of Common Stock Certificate (filed as Exhibit 4.1 to the Initial Form S-1 and incorporated herein by reference).
4.2	Rights Agreement dated December 29, 1997 (filed as Exhibit 4.2 to the Registrant's Form 8-K dated December 29, 1997 and incorporated herein by reference).
4.3	Amendment to Rights Agreement (filed as Exhibit 4.3 to the Registrant's Form 8-K dated October 14, 1998 and incorporated herein by reference).
5.1	Opinion of Hogan & Hartson L.L.P. regarding the legality of the securities being registered.
23.1	Consent of PricewaterhouseCoopers LLP.
23.2	Consent of Hogan & Hartson L.L.P. (included in their opinion filed as Exhibit 5.1 hereto).
24.1	Power of Attorney (included on signature page).

ITEM 9. UNDERTAKINGS.

The undersigned Registrant hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement.

Provided, however, that paragraphs (a)(i) and (a)(ii) do not apply if the Registration Statement is on Form S-3 or Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement.

(b) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

The undertaking concerning indemnification is set forth under the response to Item 6.

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, State of Maryland, on April 23, 1999

CIENA Corporation

By: /s/ PATRICK H. NETTLES, PH.D.

 Patrick H. Nettles, Ph.D.
 President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

We, the undersigned officers and directors of CIENA Corporation, hereby severally and individually constitute and appoint Patrick H. Nettles, Joseph R. Chinnici and G. Eric Georgatos, and each of them, the true and lawful attorneys and agents of each of us to execute in the name, place and stead of each of us (individually and in any capacity stated below) any and all amendments to this Registration Statement on Form S-8, and all instruments necessary or advisable in connection therewith and to file the same with the Securities and Exchange Commission, each of said attorneys and agents to have power to act with or without the other and to have full power and authority to do and perform in the name and on behalf of each of the undersigned every act whatsoever necessary or advisable to be done in the premises as fully and to all intents and purposes as any of the undersigned might or could do in person, and we hereby ratify and confirm our signatures as they may be signed by our said attorneys and agents and each of them to any and all such amendment and amendments.

By: /s/ PATRICK H. NETTLES

Patrick H. Nettles, Ph.D.
President and Chief
Executive Officer

/s/ JOSEPH R. CHINNICI

Joseph R. Chinnici
Sr. Vice President, Chief Financial Officer
Principal Financial Officer

/s/ ANDREW C. PETRIK

Andrew C. Petrik
Vice President, Controller and Treasurer
Principal Accounting Officer

Harvey B. Cash
Director

/s/ BILLY B. OLIVER

Billy B. Oliver
Director

/s/ JAGDEEP SINGH

Jagdeep Singh
Director

/s/ MICHAEL J. ZAK

Michael J. Zak
Director

Stephen P. Bradley
Director

EXHIBIT INDEX

Exhibit Number - - - - -	Description - - - - -
4.1	Form of Common Stock Certificate (filed as Exhibit 4.1 to the Initial Form S-1 and incorporated herein by reference).
4.2	Rights Agreement dated December 29, 1997 (filed as Exhibit 4.2 to the Registrant's Form 8-K dated December 29, 1997 and incorporated herein by reference).
4.3	Amendment to Rights Agreement (filed as Exhibit 4.3 to the Registrant's Form 8-K dated October 14, 1998 and incorporated herein by reference).
5.1	Opinion of Hogan & Hartson L.L.P. regarding the legality of the securities being registered.
23.1	Consent of PricewaterhouseCoopers LLP.
23.2	Consent of Hogan & Hartson L.L.P. (included in their opinion filed as Exhibit 5.1 hereto).
24.1	Power of Attorney (included on signature page).

Opinion of Hogan & Hartson L.L.P.

April 23, 1999

Board of Directors
CIENA Corporation
1201 Winterson Road
Linthicum, Md. 21090

Dear Gentlemen:

This firm has acted as special counsel to CIENA Corporation (the "Company"), a Delaware corporation, in connection with its registration, pursuant to a registration statement on Form S-8 filed on or about the date hereof (the "Registration Statement"), of 2,521,120 shares (the "Shares") of Common Stock, par value \$.01 per share, of the Company ("Common Stock"), issued or issuable under the Lightera Networks, Inc. 1998 Stock Plan, As Amended (the "Stock Plan"). This letter is furnished to you pursuant to the requirements of Item 601(b)(5) of Regulation S-K, 17 C.F.R. Section 229.601(b)(5), in connection with such registration.

For purposes of this opinion, we have examined copies of the following documents:

1. An executed copy of the Registration Statement.
2. A copy of the Stock Plan.
3. The Third Restated Certificate of Incorporation of the Company, as amended, as certified on April 19, 1999 by the Secretary of State of the State of Delaware and on the date hereof by the Secretary of the Company as being complete, accurate and in effect.
4. A Certificate of Good Standing dated March 24, 1999, from the Secretary of State of the State of Delaware, certifying that the Company is duly incorporated under the laws of the State of Delaware and is in good standing.
5. The Amended and Restated Bylaws of the Company as certified by the Secretary of the Company on the date hereof as being complete, accurate and in effect.
6. Resolutions of the Board of Directors of the Company adopted on March 14, 1999, as certified by the Secretary of the Company on the date hereof as then being complete, accurate and in effect, relating to the merger between the Company and Lightera Networks, Inc., assumption of the Stock Plan and the issuance of shares thereunder and arrangements in connection therewith.

For purposes of rendering this opinion, we have not, except as specifically identified above, made any independent review or investigation of factual or other matters, including the

organization, existence, good standing, assets, business or affairs of the Company. In our examination of the aforesaid certificates, records and documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the accuracy and completeness of all documents submitted to us, the authenticity of all original documents and the conformity to authentic original documents of all documents submitted to us as copies (including telecopies). We also have assumed the accuracy, completeness and authenticity of the foregoing certifications (of public officials, governmental agencies and departments and corporate officers) and statements of fact, on which we are relying, and have made no independent investigations thereof. In rendering this opinion we have relied as to factual matters, without independent investigation, upon the representations, warranties and certifications made by the Company. This opinion is given in the context of the foregoing.

This opinion is based as to matters of law solely on the General Corporation Law of the State of Delaware, as amended, and we express no opinion as to any other laws, statutes, regulations, or ordinances, including without limitation any federal or state tax or securities laws or regulations.

Based upon, subject to, and limited by the foregoing, we are of the opinion that the Shares, when issued and delivered in the manner and on the terms contemplated in the Registration Statement and the Stock Plan, will be validly issued, fully paid and non-assessable.

We assume no obligation to advise you of any changes in the foregoing subsequent to the delivery of this opinion. This opinion has been prepared solely for your use in connection with the filing of the Registration Statement on the date of this letter, and should not be quoted in whole or in part or otherwise be referred to, nor be filed with or furnished to any governmental agency or other person or entity, without the prior written consent of this firm.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement. In giving this consent, we do not thereby admit that we are an "expert" within the meaning of the Securities Act of 1933, as amended.

Very truly yours,

/s/ HOGAN & HARTSON L.L.P.
HOGAN & HARTSON L.L.P.

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of CIENA Corporation of our report dated November 25, 1998 appearing in CIENA Corporation's Annual Report on Form 10-K for the year ended October 31, 1998. We also consent to the incorporation by reference of our report dated November 25, 1998, except as to Note 2 "Lightera" which is as of March 31, 1999 which appears in the Current Report on Form 8-K dated April 1, 1999 and amended on April 5, 1999.

PricewaterhouseCoopers LLP
McLean, Virginia
April 22, 1999